

## CLAIMS:

1. A magnetoresistive angle sensor (100) comprising a sensor device for detecting an angle ( $\alpha$ ) of an external magnetic field relative to a reference axis of the sensor device, characterized in that the sensor device comprises a flat AMR layer (14, 15) with one electrical contact ( $K_0$ ) for applying a current (I) and a plurality of electrical contacts ( $K_i$ ) for measuring a flow of current through the AMR layer (14, 15).  
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2. A magnetoresistive angle sensor as claimed in claim 1, characterized in that the sensor device is a circular AMR layer (14).
- 10 3. A magnetoresistive angle sensor as claimed in claim 2, characterized in that the electrical contact ( $K_0$ ) for applying a current (I) is arranged in the center of the circular AMR layer (14).
4. A magnetoresistive angle sensor as claimed in claim 2 or 3, characterized in  
15 that a plurality of electrical contacts ( $K_i$ ) are arranged equidistantly at the edge of the circular AMR layer (14), in particular eight electrical contacts.
5. A magnetoresistive angle sensor as claimed in claim 1, characterized in that the sensor device is a semicircular AMR layer (15).  
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6. A magnetoresistive angle sensor as claimed in claim 5, characterized in that the electrical contact ( $K_0$ ) for applying a current (I) is arranged in the center of an associated full circle.
- 25 7. A magnetoresistive angle sensor as claimed in claim 5 or 6, characterized in that a plurality of electrical contacts ( $K_i$ ) are arranged equidistantly at the semicircular edge of the semicircular AMR layer (15), in particular five electrical contacts.

8. A magnetoresistive angle sensor as claimed in any of claims 1 to 7, characterized in that the plurality of electrical contacts ( $K_i$ ) are placed at the same potential, in particular at ground potential.
- 5 9. A magnetoresistive angle sensor as claimed in any of claims 1 to 8, characterized in that the AMR layer (14, 15) is a Permalloy layer, and in particular the latter is applied to a silicon support substrate.
- 10 10. The use of a magnetoresistive angle sensor (100) as claimed in any of claims 1 to 9 in motor vehicle technology, in particular to monitor the position of a pedal and/or the position of a throttle.